USSR

UDC 661.143

BENDERSKAYA, L. P., KRAVCHENKO, M. D., TANANAYEV, A. N.

"Synthesis and Luminescent Properties of Yttrium Germanate Activated with Europium"

Sb. nauch. tr. VNII Lyuminoforov i osobo chist. veshchestv (Collection of Scientific Works of the All-Union Scientific Research Institute of Luminophors and Materials of Extreme Purity), 1972, vyp. 7, pp 69-71 (from RZh-Khimiya, No 6, (II), 1973, Abstract No 6L169)

Translation: The synthesis of yttrium germanate activated by Eu^{3+} is described. For the synthesis, Y_2O_3 (of luminescent purity) and GeO_2 (analytical purity) were used. They were mixed in the ratio of 1:1, 1:2, and 2:1. The powder mixture was ground in acetone; then it was dried, pulverized in an agate mortar and put in platinum crucibles. The calcining was carried out in a Silit furnace. The temperature was increased in 3 hours from 700 to 1,350°. Then the calcining was carried out at 1,350° with the same time interval. The $YGeO_5$, $Y_2Ge_2O_7$ and Y_4GeO_8 were obtained with a ratio of Y_2O_3: GeO_2 = 1:1, 1:2, 2:1 respectively.

1/1

1/2 020 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--SPECTRA OF 3,OXO,2,3,DIHYDROTHIONAPHTHENE AND ITS DERIVATIVES. XI.
INFRARED SPECTRA AND SPATIAL STRUCTURE OF SOME INDOGENIDES AND

AUTHOR-(03)-MOSTOSLAVSKIY, M.A., KRAVCHENKO, M.D., SHEVCHUK, I.N.

K

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(4), 1008-12

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--IR SPECTRUM, MOLECULAR STRUCTURE, HETEROCYCLIC SULFUR
COMPOUND, HETEROCYCLIC NITROGEN COMPOUND, CARBONYL RADICAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1146 STEP NO--UR/0076/70/044/004/1008/1012

CIRC ACCESSION NO--AP01[illegible]
UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--20NOV70

2/2 020

CIRC ACCESSION NO--AP0128568

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. VCO AND VNH IN THE IR SPECTRA OF
COMPDS. I AND II (R PRIME1, R PRIME2 EQUALS CO SUB2 ET, AC, CN) WERE
STUDIED IN CCL SUB4 AND VASELINE OIL. IN I (R PRIME 1 OR R PRIME2
CONTAINS A CO GROUP), THE EXISTENCE OF A N,H...O BOND WAS PROVED. A
SHIFT OF 30 CM PRIME NEGATIVE1 TO HIGHER FREQUENCIES FOR VCO IN I
COMPARED TO II IS CAUSED BY SIX MEMBERED RING FORMATION. VCO IN R DOES
NOT CHANGE IF IT IS TRANS TO X; IF CIS, THERE IS A DECREASE OF 35-50 FOR
I AND 15-33 CM PRIME NEGATIVE1 FOR II. THE STRUCTURE OF THE FOLLOWING
COMPDS. WAS PROVED TO BE (X, TRANS R PRIME1, CIS R PRIME2, AND M.P.
GIVEN): NH, CO SUB2 ET, AC, 121DEGREES; NH, CN, CO SUB2 ET,
204.5-5.5DEGREES; S, AC, CO SUB2 ET, 9103DEGREES; S, CO SUB2 ET, AC,
108-9DEGREES.

UNCLASSIFIED

KRAVCHENKO, M. G.

SO: JPRS 55015
25 JAN 1972

UDC: 614.4(47-21):658.381.015.2

AVERAGE TIME SPENT BY THE STAFF OF EPIDEMIOLOGICAL DEPARTMENTS OF SANITARY AND EPIDEMIOLOGICAL STATIONS ON PERFORMING EXTRAMURAL EPIDEMIC CONTROL MEASURES IN MEDICAL DISTRICTS OF URBAN POLYCLINICS

Public Health

[Article by [illegible], candidate of medical sciences, [illegible], L.K. [illegible], V.V. Stepanov, M.G. Kravchenko, All-Union Scientific Research Institute of Social Hygiene and Public Health Organization imeni N.A. Semashko; Moscow, Sovetskoye Zdravookhraneniye, Russian, No 12, 1971, submitted 20 May 1971, pp [illegible]]

The continuous perfection of forms and methods of epidemic control work and optimum planning thereof depend largely on scientific substantiation of the demands of the people with regard to various forms of extramural medical care related to infectious or suspected infectious pathology. One of the special aspects of this important problem is to determine the required scope and nature of extramural measures performed by epidemiologists and their assistants at SES [sanitary and epidemiological stations]. Determination of these data combined with investigation of annual mean work time spent on performing the necessary measures by epidemiological specialists is a mandatory prerequisite for scientifically substantiated estimates pertaining to manpower and resources of the epidemic control service.

Previously we published a method for scientific investigations on the subject of "Determination of the Scope and Nature of Extramural Medical Care for Urban Population as Related to Cases of Infectious and Suspected Infectious Diseases,"* conducted in [illegible] at the All-Union Scientific Research Institute of Social Hygiene and Public Health Organization imeni N.A. Semashko. In the present report we submit the results of investigations of work time spent by epidemiologists and their assistants on performing different epidemic control measures and [illegible] thereof. This study was conducted at several SES in [illegible] staffed by epidemiologists and assistants in accordance with the prevailing established staff quotas. The set of measures related to services to patients in the polyclinic districts. The chief method used was timing. Intermediate medical personnel, mainly medical assistants with a tenure of at least three years, conducted the time studies.

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* [illegible], et al., Sovetskoye Zdravookhraneniye, No 12, [illegible], p [illegible].

PROCESSING DATE--20NOV70

UNCLASSIFIED

1/2 011

TITLE--STABILIZATICN OF POLYCAPROLACTAM -U-

AUTHOR-(05)-SMIRNOV, L.N., KHARITCNOV, V.M., KLYUYEV, V.N., SNEGIREVA, F.P., KRAVCHENKO, M.P.

COUNTRY OF INFC--USSR

SOURCE--U.S.S.R. 263,136
REFERENCE--CTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--04FEB70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL STABILIZER, CAPROLACTAM, CHEMICAL PATENT, POLYNUCLEAR HYDROCARBON, HETEROCYCLIC NITROGEN COMPOUND, HETEROCYCLIC SULFUR COMPOUND, ORGANOMETALLIC COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/1844

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSICN NO--AA0132109

UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AA0132109

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EPSILON CAPROLACTAM IS POLYMD. IN THE PRESENCE OF 0.001-1 WT. PERCENT STABILIZER, SUCH AS A MACROCYCLIC COMPD. OF THE FORMULA I OR II, WHERE M IS A GROUP II OR III METAL OF VARIABLE VALENCE TO GIVE STABLE POLYCAPROLACTAMS. THESE MACROCYCLIC COMPDS. ARE MIXED WITH METAL HALIDES.

UNCLASSIFIED

Acc. Nr: AP0036826 K Ref. Code: UR 0016

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, 1970, Nr 1, pp 111-114

PHAGE SENSITIVITY AND PHAGE TYPE CHARACTERISTICS OF DIPHTHERIA BACILLI ISOLATED IN EXAMINATION OF VARIOUS GROUPS OF POPULATION

G. N. Berezkina, N. A. Kravchenko

A study was made of phage sensitivity and phage type characteristics of diphtheria cultures isolated in examination of various groups of the population: patients suffering from diphtheria, tonsillitis (in diphtheritic foci), their contacts, as well as of persons examined for prophylactic purpose. A total of 792 strains of C. diphtheriae were examined. It appeared that phage sensitivity and type characteristics differed in various groups of population. Thus, the greatest percentage (from 100 to 93.4%) of phage-typed cultures was isolated among diphtheritic patients and their contacts, and the least (28.5%) among persons examined for prophylactic purpose.

The phage type characteristics also differed: diphtheritic bacilli belonging to VIII, IXa, X–XVI–XVIII, XI–XIV, XII and XIII phagotypes were isolated from diphtheritic patients and their contacts; as to persons examined for prophylactic purpose — either non-typing cultures or strains of phagotypes IV, V and VII were revealed.

D.n. 6

REEL/FRAME
[illegible]

1/2 011 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--DETERMINATION OF THE HEAT OF FORMATION OF THE LYSOZYME,CHITIN ENZYME,SUBSTRATE COMPLEX BY A CHROMATOGRAPHIC METHOD -U-
AUTHOR-(02)-CHERKASOV, L.A., KRAVCHENKO, N.A.

K

COUNTRY OF INFO--USSR

SOURCE--BIOKHIMIYA 1970, 35(1), 182-6

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PROTEIN, CHROMATOGRAPHIC SEPARATION, BUFFER SOLUTION, HEAT OF FORMATION, POLYSACCHARIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/0649 STEP NO--UR/0218/70/035/001/0182/0186

CIRC ACCESSION NO--AP0117875
UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--16OCT70
CIRC ACCESSION NO--AP0117875
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PURIFIED LYSOZYME (I) OF HEN EGG
WHITES WAS CHROMATOGRAPHED ON A THERMOSTATED COLUMN OF CHITIN IN 0.2M NA
ACETATE BUFFER (PH 4.7) CONTG. 0.1M NACL, OR IN 0.15M NAHCO SUB3 (PH
8.4) CONTG. 1M OR 2M UREA. THE HEAT OF ADSORPTION WAS CALCD. FROM
ELUTION VOLS. OF THE MAX. OF PRTOEIN PEAK AT DIFFERENT TEMPS. (A. V.
KISELEV, ET AL., 1967). AT PH 4.7, NEAR THE OPTIMUM OF I ENZYMIC
ACTIVITY, THE HEAT OF ADSORPTION WAS 14.0 KCAL-MOLE; AT PH 8.4, WHEN I
WAS ALMOST INACTIVE, IT WAS 9.6 KCAL-MOLE. THE RESULTS WERE INTERPRETED
IN TERMS OF ENZYME SUBSTRATE INTERACTION BETWEEN I AND CHITIN. IT WAS
CONCLUDED THAT AT LEAST AT PH NEAR 5 THE BINDING OF I WITH CHITIN AND
SOL. CHITIN LIKE SUBSTANCES WAS OF THE SAME CHARACTER. FACILITY:
INST. ORG. CHEM., MOSCOW, USSR.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--SELECTIVE TRYPTOPHAN PHOTOOXIDATION IN LYSOZYME -U-

AUTHOR-(02)-KRAVCHENKO, N.A., LAPUK, V.KH.

K

COUNTRY OF INFO--USSR

SOURCE--BIOKHIMIYA 1970, 35(1), 64-71

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TRYPTOPHAN, PHOTOOXIDATION, BIOLOGIC STAIN, FLUORESCENCE, TRYPSIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/0637

STEP NO--UR/0218/70/035/001/0064/0071

CIRC ACCESSION NO--AP0117863

UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--16OCT70
CIRC ACCESSION NO--AP0117863
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TWO PRODUCTS OF CHICK EGG LYSOZYME
(EC 3.2.1.17) PHOTOOXIDIZED IN THE PRESENCE OF METHYLENE BLUE WERE
ANALYZED BY PEPTIDE MAPPING, AND EACH PRODUCT WAS SHOWN TO CONTAIN ONLY
1 OXIDIZED TRYPTOPHAN RESIDUE, AT POSITION 28. FLUORESCENCE
CHARACTERISTICS FOR THE 2 PRODUCTS ARE PRESENTED AND POSSIBLE REASONS
FOR THE REDUCED ENZYME ACTIVITY ARE DISCUSSED. BOVINE TRYPSIN ACTS
NONSPECIFICALLY ON THE ASPARAGINE OXIDIZED TRYPTOPHAN BOND OF
PHOTOOXIDIZED LYSOZYME. FACILITY: N. D. ZELINSKII INST. ORG.
CHEM., MOSCOW. URRS.

UNCLASSIFIED

Khar'kov, Monokristally, Stsintillyatory i Organicheskiye Lyuminofory -- Sbornik (Monocrystals, Scintillators, and Organic Luminophors - Collection of Works), No 5, 1970, pp 193-198 (from Referativnyy Zhurnal, Metrologiya i Izmeritel'naya Tekhnika, No 12, 1970, Abstract 12.32.1559)

Translation: Present-day photomultipliers used in scintillation spectrometers possess a large (up to 50%) inhomogeneity of the photocathode sensitivity. If the light output of the crystal is unequal with respect to the area of the output window, this inhomogeneity makes an additional contribution to the resolution of the scintillation spectrometer. A study was made of the influence of the sensitivity inhomogeneity of the photocathode of photoelectric multiplier 49 upon the resolution of a scintillation spectrometer with an NaI (Tl) crystal with dimensions of 120x100 mm. To separate the contributions of the crystal, the photomul-

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KRAVCHENKO, N. G., et al, Monokristally, Stsintillyatory i Organicheskiye Lyuminofory -- Sbornik, No 5, 1970, pp 193-198

tiplier, and the photomultiplier inhomogeneity to spectrometer resolution, the method of homogeneous neutral filters and light guides was used. 2 figures, 1 table, 4 bibliographic entries.

2/2

USSR

UDC 681.325.021

KRAVCHENKO, P. P.

"Using Digital Integrating Machines for Computing Electromagnetic Processes in Miniaturized Circuits"

Kiev, Kibernetika i Vychislitel'naya Tekhnika, No. 11, 1971, pp 15-21

Abstract: The Cybernetics Institute of the Academy of Sciences of the Ukraine has developed new methods for solving important practical problems of the electromagnetic processes in highly compact miniaturized circuits operating at high frequencies. Since the use of arithmetic digital computers is relatively costly for computing such circuits, even of comparatively simple topology, this article considers the possibility of using digital integrating machines to reduce computing time as well as the required memory volume. In his calculations, the author uses a system of integral equations developed in earlier articles (O. V. Tozoni and I. Ye. Makarov, in the same journal mentioned above, same issue; O. V. Tozoni, in the book Metody rascheta tsepey i poley na ETsVM — Methods of Computing Circuits and Fields on the Digital Computer, 2, Izd. In-ta kibernetiki AN UkSSR, Kiev, 1969) and solves it on the computer by the method of successive approximations. He

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USSR

KRAVCHENKO, P. P., Kibernetika i Vychislitel'naya Tekhnika, No 11, 1971, pp 15-21

concludes that the use of the digital integrating machine or the combination of such a machine with the digital computer can substantially reduce the computing time, reduce the number of computed points and memory volume through the Stieltjes numerical integration formulas with a high order of accuracy. He also finds that the construction of a digital integrating machine to be used as an attachment to a regular digital computer is advisable.

2/2

USSR UDC 681.322.057(088.8)(47)

KALYAYEV, A. V., and KRAVCHENKO, P. P., Taganrog Radio Engineering Institute

"An Extrapolator With Rounding-Off of Increments for a Digital Data Analyzer"

USSR Author's Certificate, No 279192, Filed 9 Apr 68, Published 11 Nov 70 (from Referativnyy Zhurnal -- Avtomatika, Telemekhanika, i Vychislitel'naya Tekhnika, No 8, 1971, Abstract No 8B410 P)

Translation: An extrapolator with rounding-off of increments for a digital computer with complete digit position increments is being patented. The extrapolator is distinguished by the following features, whose purpose is to economize on equipment: The output of the first accumulator is connected to the input of the second accumulator. The output of the second accumulator is connected to the input of the unit which isolates the significant part of a number. The output of the third accumulator is connected to the first input of the gate which isolates the rounded-off value of the extrapolated increment; the second input of this gate is connected to the control unit and to the first input of the gate which isolates the remainder from the process of rounding off an extrapolated increment. The second input of the latter gate is connected to the control unit, and its output is connected to the input of the code inversion block. The output of this block is connected to the second input of the second accumulator.

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KRAUCHENKO, P. Ye.

mechanics

GLORIA

SO: JPRS 55792

25 April 1972

UDC [illegible]

DETERMINATION OF ENDURANCE MARGINS

[Article by P. Ye. [illegible], [illegible], IVUZ - Mashinostroyeniye, Russian, No 10, 1971, pp [illegible]]

Deficiencies and errors occurring in the determination of endurance margins are examined in the present article. Recommendations are made on the elimination of indicated deficiencies. The magnitudes of design coefficients and other mechanical characteristic features the absence of which would not permit performing concrete endurance computations are presented.

Numerous articles and monographs are devoted to the determination of endurance margins. In spite of this, some of its aspects are still uncompleted.

Schematizing Threshold Amplitudes Diagrams

From experimental data, presented for example in paper [1], it follows that the indicated diagram is bounded by the curve ABDC (Figure 1). In order to obtain this curve for only one brand of steel it is necessary to test tens of samples and to use hundreds of hours of machine time. For this reason the question arose of utilizing schematized diagrams. R. S. Kinasoshvili proposed to replace curve ABDC by the straight lines AS and ST. He writes in [2, 3]: "Since maximum stresses should not be higher than the yield point, the fatigue diagram is bounded by a maximal stress equal to the yield point." For this reason R. S. Kinasoshvili considers cycle M which has $\sigma_{max} = GK + KM > \sigma_T$, to be dangerous. We cannot agree with this, since the part endures cycle M a basic number of times (10^7) without being destroyed. It is also evident that curve ABDC should be replaced by straight lines AB and BC. In a classical paper [4] its authors consider such schematizing as one of the possible variants. In the present article only

USSR UDC 620.10

KRAVCHENKO, P. YE., Associate Professor, Candidate of Technical Sciences
(Armoured Forces Academy)

"Determining the Endurance Safety Factors"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Mashinostroyeniye, No 10, 1971, pp 30-33

Abstract: Deficiencies and mistakes committed in determining safety factors of steels are considered on the bases of an analytical method. Recommendations are given for elimination of these deficiencies. Formulas for determining safety factors are derived. Design coefficients and other mechanical characteristics in the case of extension and bending, whose absence makes it possible to carry out specific strength calculations are presented in a table.

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UDC 51

USSR

BRASLAVETS, M. YE., KRAVCHENKO, R. G.

"Mathematical Simulation of Economic Processes in Agriculture. Textbook for the Departments of Economic Cybernetics of the Agricultural Institutions of Higher Learning"

Matematicheskoye modelirovaniye ekonomicheskikh protsessov v sel'skom khozyaystve. Uchebnik dlya fak. i otd. ekon. kibernet. s.-kh. vuzov. (cf. English above), Moscow, Kolos, 1972, 589 pp, ill., 1 r. 56 k. (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V404K)

No abstract

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USSR UDC: 621.317.77

KRAVCHENKO, S. A., VINOGRADOV, Ye. V.

"A Precision Installation for Checking Extra Low Frequency Phase Meters"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 6, Feb 72, Author's Certificate No 328399, Division G, filed 24 Aug 70, published 2 Feb 72 p 140

Translation: This Author's Certificate introduces a precision installation for checking extra low frequency phase meters. The unit contains a stable voltage source which feeds two identical channels made up of series-connected circular phase shifters, a frequency divider (with a scaling factor of, say, 36), and a mixer with low-frequency filter. The device also contains switches connected to an electronic counting frequency meter. As a distinguishing feature of the patent, in order to improve precision in phase setting, the installation is equipped with a single-channel vernier digital phase-measuring device made up of an electronic counting frequency meter whose high-frequency input is connected to an output of the stable voltage source with frequency ten times that of the power supply for the phase shifters. One signal input of the fre-

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KRAVCHENKO, S. A., VINOGRADOV, Ye. V., USSR Author's Certificate No 328399

quency meter is connected through a switch to the other outputs of the stable voltage source with frequencies which are multiples of $360 \cdot 10^n$. The second signal input is connected through another switch to the output terminals, to the outputs of the frequency divider, and through a mixer to the outputs of the phase shifters. A digital frequency synthesizer is used as the stable voltage source.

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USSR UDC: 621.317.77

KUCHERENKO, [illegible]. N. and KRAVCHENKO, S. A.

"Methods of Reducing the Amplitude-Phase Errors of Electronic Phasemeters"

V sb. Vopr. uluchsheniya tekhn. parametrov vypryamit. i tranzist. priborov (Problems of Improving the Technical Parameters of Rectifiers and Transistorized Devices--collection of works) Leningrad, 1970, pp 280-292 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3A353)

Translation: As the result of an analysis of some types of electronic phasemeters, the following conclusions are arrived at. The amplitude-phase error (APE) appears principally in the first stages of the phasemeter channels. It can be reduced somewhat by special measures, but cannot be completely eliminated. The APE can be computed by plotting a curve to be attached to the manufactured phasemeter. Then, the value of the APE can be taken out of the total phasemeter error by introducing only its dispersion. Bibliography of four. E. L.

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USSR

UDC: 621.317.77

KUCHERENKO, G. N. and KRAVCHENKO, S. A.

"Measuring Device for Determining Electronic Phase Meter Errors from Nonlinear Distortions"

V sb. Vopr. uluchsheniya tekhn. parametrov vypryamit. i tranzist. priborov (Problems of Improving the Technical Parameters of Rectifiers and Transistorized Devices--collection of works) Leningrad, 1970, pp 146-155 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3A360)

Translation: The operation and description of a circuit permitting a signal with specific known non-linear distortions in second- to fifth-order harmonics to be applied to a phase meter are described. The investigation of a real phase meter made with a mock-up of this device has shown that the third and fourth harmonics have the greatest effect. Bibliography of one. E. L.

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UDC: 621.317.77

KUCHERENKO, G. N., BORISOV, V. F., and KRAVCHENKO, S. A.

"A Method of Verifying Electronic Phase Meters in a Frequency Range of the Order of 10 MHz"

V sb. Vopr. uluchsh. nivs. tekhn. parametrov vypryamit. i tranzist. priborov (Problems of Improving the Technical Parameters of Rectifiers and Transistorized Devices--collection of works), Leningrad, 1970, pp 240-246 (From RZh-Radiotekhnika, No 3, March 71, Abstract No. 3A362)

Translation: It is shown that the best method for verifying phase meters in the 10 MHz frequency range is the specification of known phase shifts through sample phase-shift devices (PSD). The most promising is the PSD with phase automatic frequency control. The characteristics of the phase AFC system permits its use in the design of highly accurate PSD with a wide phase and frequency range. A circuit diagram and the characteristics of the developed PSD are given. Bibliography of two. E. L.

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USSR

UDC: 621.317.77

KUCHERENKO, J. N. and KRAVCHENKO, S. A.

"Estimating the Error of Electronic Phase Meters from Nonlinear Signal Distortions"

V sb. Vopr. uluchsheniya tekhn. parametrov vypryamit. i tranzist. priborov (Problems of Improving the Technical Parameters of Rectifiers and Transistorized Devices--collection of works) Leningrad, 1970, pp 114-120 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3A365)

Translation: The errors of two-channel phase meters (trigger and switch modulated) caused by signal distortions applied to their inputs are discussed. Results of theoretical and experimental results show that the boundary values of the coefficient of nonlinear distortion at which systematic errors begin, at the present stage of oscillator development, may be considered to be 0.2%. A formula connecting the maximum phase meter error with the coefficient of nonlinear distortion is given. E. L.

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UDC 621.317.772

USSR

KRAVCHENKO, S. A., KOLTIK, YE. D., All-Union Scientific Research Institute of Metrology imeni D. I. Mendeleyev

"A Precision Phasing Device for Ultralow and Low Frequencies"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 6, 1970, p 60, patent No 262264, filed 25 Dec 64

Abstract: This Author's Certificate introduces a precision phasing device for ultralow and low frequencies. The unit contains a master oscillator which feeds constant and variable phase channels. These channels are made up of series-connected frequency dividers and attenuators. The installation also contains a phase shifter connected across the input of the frequency divider in the variable phase channel, and a phase indicator which fixes the zero displacement between the output voltages of the channels. As a distinguishing feature of the device, the accuracy of predetermined phase shifts is improved by connecting a phase measurement circuit made up of two mixers operating on a coherent frequency in parallel with the phase shifter. The first inputs of these mixers are connected to the phase shifter, the second inputs are common, and the outputs are loaded by the phase meter. Mixers are connected in the variable and constant phase channels between the frequency dividers and attenuators. The first inputs of these

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KRAVCHENKO, S. A., KOLTIK, YE. D., Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Zraki, No 6, 1970, p 60, patent No 262264, filed 25 Dec 64

mixers are connected to the frequency dividers, and the second inputs are common. Connected between the output of the master oscillator and the input of the channels is a frequency box which sets the coherent grid of frequencies introduced into the common inputs of the channels mixers, and the fixed frequency fed to the common inputs of the mixers in the phase measurement circuit.

USSR UDC: 621.317.77

KUCHERENKO, O. N. and KRAVCHENKO, S. N.

"New Method for Checking Electronic Phase Meters at 200 MHz"

V sb. Vopr. uluchsheniya tekhn. parametrov vypryamit. i preobrazovat. priborov (Problems of Improving the Technical Parameters of Rectifiers and Transistorized Devices--collection of works) Leningrad, 1970, pp 186-191 (from RZh-Elektrotekhnika, No. 3, March 71, Abstract No. 3A363)

Translation: In this proposed method a new type of phase sensor without a phase shifter and with regenerative frequency dividers (RFD) and frequency multipliers is used. The basis of the sensor's action is a characteristic of the RFD to which any stable value of the RFD initial phase with a division factor of n, there corresponds another (n - 1) stable phase states through an angle of 2π/n. It is established that a discreteness of 12° is sufficient for checking any phase meter. The error of the sensor model did not exceed 0.2°. E. L.

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1/2 017 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--PREPARATION AND STUDY OF BARIUM STRONTIUM NIOBATE SINGLE CRYSTALS -U-

AUTHOR-(05)-DUDNIK, O.F., GROMOV, A.K., KRAVCHENKO, V.B., KOPYLOV, YU.L., KUZNETSOV, G.F.

COUNTRY OF INFO--USSR

SOURCE--KRISTALLOGRAFIYA 1970, 15(2), 386-8

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--MIBIUM COMPOUND, BARIUM COMPOUND, STRONTIUM COMPOUND, CURIE POINT, SINGLE CRYSTAL GROWTH, DIELECTRIC CONSTANT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1566 STEP NO--UR/0070/70/015/002/0386/0388

CIRC ACCESSION NO--AP0125192

UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125192

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SINGLE CRYSTALS OF BA SUBX SR SUB1-X NB SUB2 O SUB6 WERE GROWN BY THE CZOCHRALSKI METHOD IN AN INDUCTION FURNACE FROM POWD. MIXTS. OF NB SUB2 O SUB5, SRCO SUB3, AND BACO SUB3. WHEN USING PT CRUCIBLES, COLORLESS CRYSTALS WERE OBTAINED, AND IN IR CURCIBLES, DARK AMBER ONES. THE HABIT OF THE CRYSTALS WAS DETD. BY 24 FACES OF 4 PRISMS: (110), (120), (100), AND (130), THESE FACES BEING DIFFERENTLY DEVELOPED FOR CRYSTALS OF DIFFERENT COMPN. TEMP. DEPENDENCES OF DIELEC. CONSTS. ALONG THE C AXIS (EPSILON SUBC) AND ALONG THE ALPHA AXIS (EPSILON SUBALPHA) WERE DETD., AS WELL AS CURIE TEMPS.: FOR BA SUB0.25 SR SUB0.75 NB SUB2 O SUB6, 56 PLUS OR MINUS 3DEGREES; FOR BA SUB0.5 SR SUB0.5 NB SUB2 O SUB6, 119 PLUS OR MINUS 3DEGREES; FOR BA SUB0.75 SR SUB0.25 NB SUB2 O SUB6, 205 PLUS OR MINUS 3DEGREES. WITH INCREASING CURIE TEMP., AN INCREASE IN PEAK EPSILON SUBC VALUES WAS OBSD., AND DECREASE IN EPSILON SUBC VALUES AT ROOM TEMP. THE EPSILON VALUE ALONG THE ALPHA AXIS IS MUCH LESS THAN ALONG THE C AXIS, AND THE DIELEC. ANOMALY ALONG THE ALPHA AXIS IS VERY SLIGHT.

FACILITY: INST. RADIOTEKH. ELECTRON., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 621.372.413

KRAVCHENKO, V. F., KARETNIKOV, S. N., and BOBRYSHEV, V. D.

"Calculating Limit Resonators"

Radiotekhnika. Resp. mezhved. temat. nauch.-tekhn. sb. (Radio Engineering. Republic Interagency Thematic Scientific-Technical Collection of Articles), 1972, vyp.21, pp 107-113 (from RZh-Radiotekhnika, No 11, Nov 72, Abstract No 11 B122)

Translation: A relationship is obtained which is not only suitable for calculating regularly-nonregular limit resonators, but which also reflects some regularities associated with variation in the geometry of a resonator. It is shown that the Q-factor of an H_{011} wave biconical resonator is more than two times greater than the Q-factor of a regular cylindrical resonator. It is noted that is is possible to achieve values of the loaded Q-factor which exceed $5 \cdot 10^4$ for a basic type of oscillation. Original article: four illustrations, two tables, and 13 bibliographic entries.

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USSR

UDC: 529.786

IVANOV, N. I., KRAVCHENKO, V. F.

"Fluctuations in a Quantum Frequency Standard"

Kiev, Radioelektronika, Vol 15, No 7, Jul 72, pp 890-894

Abstract: The authors investigate short-term frequency fluctuations in a rubidium quantum frequency standard. Expressions are found for the mean-square variations from the average of the relative phase deviation of the frequency of a quartz-crystal oscillator tuned with respect to a rubidium quantum oscillator. It is found that short-term frequency instability of the output signal of a rubidium quantum frequency standard as determined by the flicker noise level of the quartz-crystal oscillator decreases with an increase in the passband of the phase AFC circuit. The contribution of additive noises of the autotuning circuit to frequency fluctuations decreases as the passband of the phase AFC circuit narrows. The cutoff frequency of the AFC circuit has an optimum value for a specific rubidium maser. The results of this research can be extended to other types of frequency standards.

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USSR

UDC 536.21

TOKARENKO, A. V., KRAVCHENKO, V. F.

"A Numerical Method for Calculating Nonstationary Temperature Fields in Bodies of Complex Shape"

Energ. mashinostroyeniye. Resp. mezhved. temat. nauch.-tekhn. sb. (Power Machine Building. Republic Interdepartmental Thematic Scientific-Technical Collection), 1972, No. 14, pp 122-128 (from RZh- 34. Aviatsionnyye i raketnyye dvigateli, No 9, Sep 72, Abstract No 9.34.11)

Translation: A new method is proposed for constructing the functionals for variational problems equivalent to boundary value problems of nonstationary heat conductivity for regions of complex shape. The numerical method of solving the boundary value problem, based on a variational principle, reduces to the construction of a system of coordinate functions exactly satisfying given boundary conditions and to the solution of a system of ordinary linear differential equations. The application of the method is illustrated for the solution of a specific problem of nonstationary heat conductivity. 1 ill., 7 ref. Resume.

USSR UDC 621.438-22.536.21.001.24

YARMOLYUK, V.K., and KRAVCHENKO, V. F.

"On a Method of Calculating Thermal Fields for Bodies of Complex Form"

Energ. Mashinostroyeniye. Resp. Mezhved, Temat. Nauch.-Tekhn. Sb. /Power Machinebuilding. Republic Interdepartmental Thematic Scientific-Technical Collection/, 1972, Vol 14, pp 10-17 (from Referativnyy Zhurnal, No 9, Sep 72, 49. Turbostroyeniye. Abstract No 9.49.22)

Translation: A method is discussed of an approximate solution of a certain class of stationary heat conductivity problems for bodies of complex form. The method is based on the use of R-functions in combination with variational principles. The problem of determination of the stationary condition of body parts of a gas turbine is analyzed as a concrete example. In the limiting case, the obtained approximate solution is compared with the known exact solution for the field of simple form. Three illustr., seven biblio. refs.

1/1

USSR UDC: 621.396.6.017.7

RVACHEV, V. L., SLESARENKO, A. P., KRAVCHENKO, V. F., LYSOV, V. P.

"On the Theory of Automating the Calculation of Heat Fields in Designing Radio Electronic Devices"

Pribory i sisteny avtomatiki. Resp. mezhved. nauch.-tekhn. sb. (Devices and Systems for Automation. Republic Interdepartmental Scientific and Technical Collection), 1971, vyp. 18, pp 102-106 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V291)

Translation: A number of relationships are derived which can be used as convenient algorithms in calculating the heat fields of radio electronic equipment on computers. Consideration is given to the possibility of automatic computer design of radio electronic equipment since computers are a component part of the fundamental equipment for electronic design. Bibliography of two titles. Resumé.

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USSR UDC: 621.396.6.017.7

RVACHEV, V. L., SLESARENKO, A. P., KRAVCHENKO, V. F.

"On Calculating Heat Fields of Radio Electronic Devices by the Method of R-Functions. Part 1"

Pribory i sistemy avtomatiki. Resp. mezhved. nauch.-tekhn. sb. (Devices and Systems for Automation. Republic Interdepartmental Scientific and Technical Collection), 1971, vyp. 15, pp 44-49 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V290)

Translation: It is shown that R-functions can be used for calculating the heat fields of radio electronic equipment comprised of separate components arbitrarily located in space, where the profiles of these components can be represented by piecewise-smooth sections of known surfaces. Resumé.

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USSR UDC: 621.372.852.6

3

PIROTTI, Ye. L., BAKLANOV, O. D., BAL'ZAMOV, B. N., KRAVCHENKO, V. F., ZHILKOV, V. S., KHIZHNIK, N. A., USTIMENKO, V. V.

"A Method of Calculating Impedance Transformers Based on Rectangular Waveguides"

Pribory i sistemy avtomatiki. Resp. mezhved. nauch.-tekhn. sb. (Devices and Systems for Automation. Republic Interdepartmental Scientific and Technical Collection), 1970, vyp. 14, pp 11-15 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5B151)

Translation: The authors proposed a fundamentally new method of calculating an impedance transformer on the basis of a strict solution of the internal problem of electrodynamics using integrodifferential equations. An analysis of the results of computational and experimental research shows that the procedure for calculating and designing the proposed model may find extensive practical application in a number of microwave devices as well as in the development of an automatic waveguide line. Five illustrations, bibliography of five titles. Resumé.

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USSR UDC: 621.372.852.6

4

BAKLANOV, O. D., BAL'ZAMOV, B. N., USTIMENKO, V. V., IVANOV, N. S., KRAVCHENKO, V. F., ZHILKOV, V. S., KHIZHNIK, N. A., PIROGOV, Yu. L.

"An Impedance Transformer Based on a Cylindrical Waveguide"

Pribory i sistemy avtomatiki. Resp. mezhved. nauch.-tekhn. sb. (Devices and Systems for Automation. Republic Interdepartmental Scientific and Technical Collection), 1970, vyp. 14, pp 11-15 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5B152)

Translation: The paper describes the design of an impedance transformer based on a cylindrical waveguide. An analysis of the results of experimental studies shows that practical realization of the device is feasible in microwave technology. The proposed design may find application in synthesis of automatic lines based on cylindrical waveguides. Resumé.

USSR UDC: 621.372.85

KRAVCHENKO, V. F., ZHILKOV, V. S., SALYGA, V. I., USTIMENKO, V. V., BAL'ZAMOV, B. N., BAKLANOV, O. D.

"On the Possibility of Constructing Automatic Matching Circuits in the Microwave Band"

Pribory i sistemy avtomatiki. Resp. mezhved. nauch.-tekhn. sb. (Devices and Systems for Automation. Republic Interdepartmental Scientific and Technical Collection), 1971, vyp. 15, pp 75-77 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6B188)

Translation: The authors consider circuit designs for automatic matchers for waveguide channels. Possible versions for practical realization of these circuits are considered, and it is also pointed out that impedance transformers based on using bodies of the proper shape can be used in automatic matchers. It is concluded that adaptive automatic matchers can be made for operation over a wide frequency band. Resumé.

1/1

USSR

UDC 621.372.823

PIROTTI, YE. L., KRAVCHENKO, V. F., KHIZHNYAK, N. A.

"Theory of Scattering of Electromagnetic Waves on Regularly Shaped Inhomogeneities in Cylindrical Wave Guides"

Radiotekhnika. Resp. mezhved. nauchno-tekhn. sb. (Radio Engineering. Republic Interdepartmental Scientific and Technical Collection), 1970, vyp. 15, pp 12-18 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4B105)

Translation: Integrodifferential equations are used to solve the problem of scattering of electromagnetic waves on inhomogeneities of the ellipsoid type.

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USSR UDC 621.372.823

DIKAREV, V. A., KRAVCHENKO, V. F.

"Scattering with Respect to Natural Oscillations in the Cross Section of a Cylindrical Wave Guide"

Radiotekhnika. Resp. mezhved. nauchno-tekhn. sb. (Radio Engineering. Republic Interdepartmental Scientific and Technical Collection), 1970, vyp. 15, pp 65-72 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4B106)

Translation: The problem of existence of the complete system of natural oscillations of a cylindrical wave guide is solved in the strict statement.

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USSR UDC 621.372.822

PIROTTI, YE. L., KHIZHNYAK, N. A., KRAVCHENKO, V. F.

"Study of Scattering of Electromagnetic Waves on Regular-Shaped Bodies in a Rectangular Wave Guide"

Radiotekhnika. Resp. mezhved. nauchno-tekhn. sb. (Radio Engineering. Republic Interdepartmental Scientific and Technical Collection), 1970, vyp. 14, pp 60-69 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4B102)

Translation: Integrodifferential equations are used to solve the problem of scattering of electromagnetic waves on a group of ellipsoids.

1/1

USSR

UDC 621.372.8.092.22

KRAVCHENKO, V. F.

"Calculating the Eigenvalues of a Periodic Strip Structure with an Active Layer"

Radiotekhnika. Resp. mezhved. nauchno-tekhn. sb. (Radio Engineering. Republic Interdepartmental Scientific and Technical Collection), 1970, vyp. 14, pp 35-40 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4B120)

Translation: The problem of natural oscillations of an active isotropic layer with metal lattices applied to one of its sides is solved. There are 4 illustrations and a 5-entry bibliography.

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1/2 018
UNCLASSIFIED
PROCESSING DATE--23OCT70

TITLE--THERAPEUTIC EFFICACY OF BICILLIN 6 IN TREATMETN OF GONORRHEA IN MEN
-U-

AUTHOR-(04)-KOZIN, S.L., KRAVCHENKO, V.G., DEREVYANKO, B.V., SEDASH, V.A.

COUNTRY OF INFO--USSR

K

SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 5, PP 75-78

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--VENEREAL DISEASE, ANTIBIOTIC, DRUG DOSAGE RESPONSE/(U)BICILLIN
6 ANTIBIOTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/2046
STEP NO--UR/0206/70/000/005/0075/0079

CIRC ACCESSION NO--AP0122275
UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0122275

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BICILLIN 5 IN DOSES OF 1,200,000 TO 2,400,000 UNITS WAS USED FOR TREATMENT OF 120 MEN WITH FRESH GONORRHEA. FAILURE OF TREATMETN WAS OBSERVED IN 10PERCENT OF THE PATIENTS DURING THEIR STAY IN THE HOSPITAL. POSTGONORRHEAL URETHRITES WERE OBSERVED IN 21.7PERCENT OF THE PATIENTS. IN SOME PATIENTS WITH GONORRHEA FAILURE OF TREATMENT WAS OBSERVED AFTER A SERIES OF SUCCESSIVELY USED ANTIBIOTICS. TREATMETN WITH BICILLIN 5 WAS FOUND TO BE MORE EFFECTIVE THAN THAT WITH WATER SOLUBLE PENICILLIN IN THE SIMILAR COURSE DOSES. FACILITY: KHAR'KOVSKIY N-I INSTITUT DERMATOLOGII I VENEROLOGII, AND KHAR'KOVSKIY OBLASTNOY KOZHNO-VENEROLOGICHESKIY DISPANSER.

UNCLASSIFIED

Industrial

USSR

UDC:621.791.75

BUDNIK, N.N., Engineer, IVANOV, V.V., Engineer, ZVNITSKIY, B.Ya., Engineer, KRAVCHENKO, V.G., Engineer, MAGNITOV, V.S., Senior Engineer, and YAMPOLSKIY, V.M., Candidate of Technical Sciences, Docent

"A Unit for Arc Metal Surfacing in Vacuum"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Mashinostroyeniye, No 3, 1970, pp 118-121

Abstract: An SDV-7 unit for arc surfacing with Stellite in a vacuum has been designed and built at the Moscow Higher Technical School im. Bauman. The design of the unit is based on a method of welding and surfacing with nonconsumable electrode in a vacuum, developed by the above mentioned School. Stellite 7 (see Fig. 1) is melted by a DC arc burning between cathode K and the article to be surfaced A--anode. The design of the unit incorporates parts and elements of a standard welding and vacuum equipment. The basic technological specifications of the SDV-7 unit are: volume of the vacuum chamber 200 l, ultimate vacuum in the chamber $5 \cdot 10^{-4}$ mm Hg, operational vacuum $2--3 \cdot 10^{-3}$ mm Hg, time required to achieve operational vacuum 3--4 min, diameter of

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BUDNIK, N.N. et al., Izvestiya Vysshikh Uchebnykh Zavedeniy Mashinostroyeniye, No 3, 1970, pp 118-121

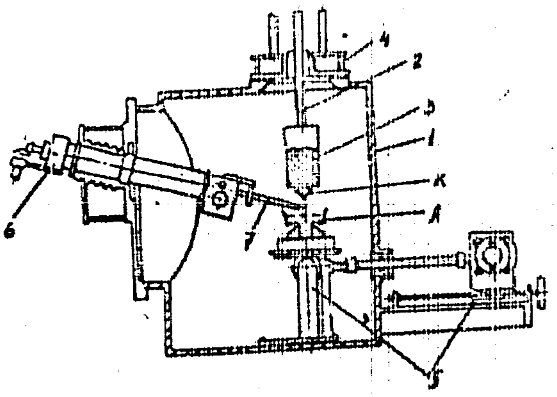

Fig. 1. Diagram of the SDV-7 metal surfacing unit

Stellite rod 6--7 mm, maximum diameter of surfaced articles 300 mm, and power input 10 kw. The unit (see Fig. 1) consists of a working

BUDNIK, N.N. et al., Izvestiya Vysshikh Uchebnykh Zavedeniy Mashinostroyeniye, No 3, 1970, pp 118-121

chamber of the vacuum system, welding gun with a mechanism for the vertical movement of a filler rod (Stellite), mechanism for rotating and longitudinal movement of the surfaced part, control panel, and power supply for the welding arc. The vacuum chamber, made of 1Kh18N9T stainless steel plate, 6 mm thick, is reinforced with V-shaped channels. Parts to be surfaced are loaded into the chamber through a hatch which seals hermetically by means of a vacuum seal and four lever clamps. The welding gun with a vertical movement mechanism, and electromagnet and electric arc supply terminals are located in the upper part of the chamber. A filler rod feeding mechanism and a valve for letting the air into the chamber are located in the side walls of the chamber. For visual observation of the surfacing process the chamber is fitted with three plastic windows, 20--25 mm thick. The vacuum system of the SDV-7 unit consists of a VN-4G preliminary vacuum pump, BN-3 high vacuum pump, vacuum shut-off valves, and connecting pipes. The degree of vacuum is controlled by VT-3 and VM-1 vacuometers. The welding gun consists of a water-cooled cathode and electromagnet 3. The electromagnet winding is made of an 8 mm copper tube. Cooling water is fed through special inlets 4 in one of the chamber's collars. The mechanism 5 for the movement of the part is

BUDNIK, N.N. et al., Izvestiya Vysshikh Uchebnykh Zavedeniy Mashinostroyeniye, No 3, 1970, pp 118-121

capable of moving the part longitudinally with a speed of 0 to 22 m/hr and rotate it at 0--6 RPM. The filler matarial feeding mechanism consists of a DC motor, reducer and feed rollers. It can hold either 6--7 mm diameter rods or a 20 mm wide strip. Smooth control of the feed rate in the 9--80 cm/min range, and reverse moving of the rod is accomplished by varying the voltage in the DC motor winding. The control panel is located rignt on the chamber. Welding transformer of the PS-500-type is used as an arc power supply. An industrial variant of this unit for arc surfacing of valve parts is being designed.

USSR

UDC: 621.373:530.145.6

KRAVCHENKO, V. I., TARABROV, V. V.

"On the Possibility of Achieving the Single-Frequency Mode of Emission in Neodymium Glasses"

V sb. Peredacha energii v kondensirovan. sredakh (Energy Transmission in Condensed Media--collection of works), Yerevan, 1970, pp 109-115 (from RZh--Radiotekhnika, No 5, May 71, Abstract No 5D216)

Translation: The authors describe an experiment set up on the basis of a theoretical analysis showing that in order to achieve single-frequency emission, it is necessary to prevent the possibility of spectral splitting as a consequence of spectral nonuniformity of the active medium, and to eliminate the nonhomogeneity of the field of modes in the cavity. Emission of glasses activated by trivalent neodymium cation is realized in a prism type traveling wave cavity. A high-speed camera was used to study the time scans of intensity, spectrum and emission pattern in a remote field for forward and backward waves in the band of 9100-9600 cm^{-1}. Stable single-frequency emission is achieved in the traveling-wave mode for all realizable pumpings. The energy yield of helium emission decreases with a transition to the traveling wave mode: the amplitude of spikes nearly doubles with no

KRAVCHENKO, V. I., TARABROV, V. V., Peredacha energii v kondensirovan. sredakh, Yerevan, 1970, pp 109-115

change in the total duration of emission or the number of spikes, which leads to an appreciable increase in the integral spectral brightness. A. K.

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USSR

UDC 621.375.82

KRAVCHENKO, V. I., TARABROV, V. V.

"The Possibility of Obtaining a Single-Frequency Generation Mode for Neodymium Glasses"

V sb. Peredacha energii v kondensirovan. sredakh (Energy Transfer in Condensed Media -- Collection of Works), Yerevan, 1970, pp 109-115 (from RZh-Fizika, No 7, Jul 71, Abstract No 7D1060)

Translation: Single-frequency subpulse generation was obtained in a ring resonator with a dispersing prism. This design prevents the possibility of decomposition of the generation spectrum due to spectral inhomogeneity of the active medium and spatial inhomogeneity of the field in the resonator. If the width of the generation spectrum in a standing wave mode reaches 10-15 cm^{-1} under a chaotic frequency from subpulse to subpulse, stable single-frequency generation is observed in the traveling wave mode. The spectra were recorded with a diffraction spectrograph (dispersion 5 cm^{-1}/mm) and a Fabry-Perot interferometer (dispersion 0.166 cm^{-1}, resolution 0.005 cm^{-1}). N. A. Ch.

USSR

UDC 621.9.048.4

KRAVCHENKO, V. L., Moscow

"Electrospark Cutting of the Magnetic Alloy YuNDK-25A"

Kishinev, Elektronnaya Obrabotka Materialov, No. 3 (39), 1971, pp 3—9

Abstract : Parameters of voltage and current pulses of the thyratron generator of the electrospark cutting unit EKb-1331 are presented. This unit secures an effective processing of the magnetic alloy YuNDK-25A. Following the author's previous description of the operation and the electrical schema of the generator and the amplifier of the follow-up system (Ibid., No. 1, 1970), the main characteristics of the cutting unit are indicated and its kinematic schema is shown. By use of trade effluent as interelectrode medium and a continuously renewed copper wire of 0.15 mm in diam. as electrode-instrument, a maximum surface forming intensity of 12 mm^2/min of the 6th roughness class was attained. In comparison with mechanical methods, the electrospark cutting method possesses the great advantage of the absence of splits and cracks and breaks-off of magnet grains. Five illustr., 2 tables, 7 biblio. refs.

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USSR UDC 619.611.9-022.6 + 636.1 + 636.2 + 636.4 + 636.52/.58

ONUFRIYEV, V. P.; DUDNIKOV, A. I.; MURAVYEV, V. K.; SHVETSOV, Yu. F.; CHUNAYEV, Yu. V.; [redacted]; ZAKHAROV, V. M.; PRONIN, I. A.; NIKITIN, A. Y.

"Diatelic Immunization of Cows with Foot-and-Mouth Disease and Prospects for Obtaining Immune Milk"

Vladimir, V sb. Yashchur. T. 1 (Foot-and-Mouth Disease, Vol 1 -- Collection of Works), 1970, pp 160-172 (from RZh-58. Zhivotnovodstvo i Veterinariya, No 4, Apr 71, Abstract No 4.58.573)

Translation: Diatelic immunization of cows with foot-and-mouth disease antibodies provides lactoserum and immunolactone with a high concentration of foot-and-mouth disease antibodies. The foot-and-mouth disease immunolactone has pronounced preventive properties in research with baby mice, guinea pigs, bull calves, and suckling pigs. Polyvalent foot-and-mouth disease immunolactone has a more pronounced virus-neutralizing activity with respect to heterologous strains of foot-and-mouth disease virus

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USSR

ONUFRIYEV, V. P., et al, V sb. Yashchur. T. 1, 1970, pp 160-172

than the monovalent one. The high specific activity of the foot-and-mouth disease lactone, obtained under biological production conditions by immunization of cows with inactivated foot-and-mouth disease virus, indicates a promising use of the diatelic immunization method under industrial conditions.

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USSR K

KRAVCHENKO, V. N., POGORELYY, O. N., SMIRNOV, A. A., SOSKIN, M. S.

"Concerning the Nature of Constrained Radiation Spectra of Organic Molecules"

Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 34, No 6, 1970, pp 1,294-1,296

Abstract: A study was made of the generation spectra of a solution of rhodamine 6Zh in isoamyl alcohol, pumped by the second radiation harmonic of a neodymium glass laser. With purely longitudinal pumping, a study was made of powerful forced radiation in a cuvette with Brewster faces without supplementary mirrors as well as with one mirror. The bright-line structure of the spectra was studied, and the mechanisms of its origin are discussed. The interaction of generation at various sectors of the working band of luminescence was studied by means of an adjustable dispersion resonator, simultaneously tuned to several frequencies.

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USSR

UDC 533.6.013.42

KUKHDA, K. Ya., KRAVCHENKO, V. P.

"Determining the Natural Vibration Frequencies of a Beam of Variable Cross Section With Concentrated Loads in a Liquid by a Numerical Method"

V sb. Dinamika gidrotekhn. sooruzh. (Dynamics of Hydraulic Engineering Equipment -- Collection of Works), Moscow, 1972, pp 140-142 (From RZh-Mekhanika, No 3, Mar 73, Abstract No 3V403)

Translation: The natural frequencies of bending vibrations of a cantilever of rectangular cross section of constant width, the length of which considerably exceeds the width, are determined. It is assumed that there are concentrated masses at several points. The beam vibrates in an ideal incompressible liquid and the effect of the liquid is taken into account by coefficients of connected masses. Coupling conditions are described at points where there are concentrated masses. The solution is sought in the form of an expansion in terms of the natural forms of the vibrations. Ye. A. Vol'mir.

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USSR

UDC 621.396.6:536.1.001.2

KRAVCHENKO, V. P., SLESARENKO, A. P., and RVACHOV, V. L.,
Khar'kov Polytechnic Institute

"On the Theory of Calculating Thermal Fields of Complexly Shaped Electronic Equipment"

Kiev, Dopovidi Akademii Nauk Ukrains'koi RSR, Seriya A -- Fizyko-Tekhnichni ta Matematychni Nauky, No 12, Dec 70, pp 1116-1119

Abstract: Generally the calculation of the thermal fields of electronic equipment reduces to the solution of boundary-value problems with combined boundary conditions, which include conditions of the first, second, third kind and mixed boundary conditions for equipment parts arbitrarily located in the equipment module. The article proposes a method for the solution of this class of boundary-value problems. Through the use of R-functions the profiles of the parts can be given by piecewise smooth sectors of known surfaces. The relation

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USSR

KRAVCHENKO, V. P., et al., Dopovidi Akademii Nauk Ukrains'koi RSR, Seriya A -- Fizyko-Tekhnichni ta Matematychni Nauky, No 12, Dec 70, pp 1116-1119

$$u = \Phi_0 + \left[\frac{\sum_{i=1}^{m} [\Psi_{3i-1}\tau_{3i-1} + (\Psi_{3i-2} - \delta_{3i-2}\Phi)\cdot\tau_{3i-2}]}{\sum_{i=1}^{m} [\tau_{3i-1} + \tau_{3i-2}]} - D_1\Phi_0 \right] \cdot \omega$$

is given, which can be used as a convenient algorithm for the computer-aided solution of such problems (the authors used a Minsk-22).

USSR

KRAVCHENKO, V. P. and EL'KE, I. N.

"Extrapolator of Values of One Type of Random Function"

Izv. Vyssh. Ucheb. Zavedeniy. Priborostroyeniye [News of Higher Educational Institutions. Instrument Building], 1973, Vol 18, No 5, pp 63-67 (Translated from Referativnyy Zhurnal Kibernetika, No 10, 1973, Abstract No 10V182)

Translation: Problems of prediction by means of a filter of exponential smoothing of random function Y(U) formed at the output of an element performing current addition of T values of input random function X(N) Author's view are studied.

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1/2 024 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--SCATTERING OF ELECTROMAGNETIC WAVES AT REGULARLY SHAPED BODIES SITUATED IN A MICROWAVE DUCT -U-

AUTHOR-(03)-PIMOTTI, YE.L., KRAVCHENKO, V.P., KHIZHNYAK, N.A.

K

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK UKRAINS'KOI RSR, DOPOVIDI, SERIIA A, FIZIKO-TEKHNICHNI I MATEMATICHNI NAUKI, VOL. 32, MAY 1970, P. 464-467

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ELECTROMAGNETIC WAVE SCATTERING, CIRCULAR WAVEGUIDE, RECTANGULAR WAVEGUIDE, INTEGRAL EQUATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/1644 STEP NO--UR/0441/70/032/000/0464/0467

CIRC ACCESSION NO--AT0133549

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--20NOV70

2/2 024

CIRC ACCESSION NO--AT0133549

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANALYSIS OF THE SCATTERING OF
ELECTROMAGNETIC WAVES AT A GROUP OF ELLIPSOIDAL INHOMOGENEITIES LOCATED
IN WAVEGUIDES OF RECTANGULAR AND CIRCULAR CROSS SECTION. THE ANALYSIS
MAKES USE OF INTEGRAL EQUATIONS, WHICH MAKES IT POSSIBLE TO SATISFY
SIMULTANEOUSLY THE BOUNDARY CONDITIONS AT THE INHOMOGENEITIES AND AT THE
WAVEGUIDE WALLS. EXPRESSIONS ARE DERIVED FOR CALCULATING THE STRUCTURE
OF THE STRAY FIELD AND THE REFLECTION AND TRANSMISSION COEFFICIENTS FOR
ANY DISTRIBUTION OF THE SCATTERERS IN THE WAVEGUIDE. EXPRESSIONS FOR
THE SCATTERING AT ONE AND AT TWO SPHERICAL INHOMOGENEITIES ARE ALSO
OBTAINED. THE EXPRESSIONS ARE CONVENIENT FOR USE IN CALCULATIONS AND
PHYSICAL ANALYSIS.

UNCLASSIFIED

KRAVCHENKO, V.S.

②

JPRS 53279
14 June 73

GROWTH KINETICS AND MORPHOLOGY OF AUTOEPITAXIAL GERMANIUM FILMS IN THE CHLORIDE METHOD

[illegible]

Article by V. S. Kravchenko, A. A. Andreyeva, V. N. [illegible], F. A. Kuznetsov, Novosibirsk, Protsessy Rosta i Struktura [illegible] Poluprovodnikov -- Trudy Simpoziuma, Russian, Part 2, 1969, pp [illegible]

The quantitative results of experimental studies of the growth of autoepitaxial layers of germanium by the chloride method [1-4] cannot be used for other setups without preliminary analysis which must include the investigation of mass transfer phenomena, reaction equilibrium and kinetics. In the given case this analysis is complicated by the fact that along with heterogeneous reactions intermediate reactions take place in the gas phase [5-7], the degree of the occurrence of which essentially affects the growth processes and, in turn, depends on many parameters and structural elements of the reactor. Therefore, the necessary condition of the optimal process and its simulation are a further experimental study of the chemical system Ge-Cl-H. This study, in addition, can permit an approach to the discovery of the mechanism of the reactions on the surface and the growth mechanisms under different conditions, and, perhaps, it will offer the possibility of more purposeful utilization of the growth process of the autoepitaxial layers.

In this paper a study was made of the effect of the temperature, the flow velocity and the concentration of the germanium tetrachloride in the vapor-gas mixture on the growth kinetics and morphology of the films. A vertical reactor 72 mm in diameter was used. The heating was realized by high frequency induction currents. The temperature was measured by a platinum-platinorhodium thermocouple, and it was kept constant (variations within the limits of ±2 degrees). Ge substrates with (111) orientation were used.

Just as any heterogeneous process realized in the flow, the growth process of the germanium films from the gas phase as a function of the simulating stage can be divided into several regions.

For very small flows where the equilibrium can be established on the surface and in the gas phase or under the conditions of complete mixing the process takes place in the so-called quasiequilibrium range [8]. In this case the growth rate is the linear function of the flow velocity and can be calculated by the formula [9]

UDC 54677, 27, 5487, 53926

USSR

KRAVCHENKO, V. S., LARIKOV, L. N., and PLOTNIKOVA, N. P.

"Study of the Substructure During Annealing of Molybdenum Bombarded Following Deformation"

Monokristally Tugoplavkikh i Redkikh Metallov [Single Crystals of Refractory and Rare Metals -- Collection of Works], Nauka Press, 1971, pp 143-148

Translation: Methods of x-ray topography are used to perform studies of polygonization in neutron-bombarded single crystals of Mo, preliminarily deformed by rolling in the {110} plane. It is demonstrated that the process of polygonization is accelerated in specimens bombarded following deformation while the development of the recrystallization process is retarded and in many cases is halted. 5 Figures; 8 Bibliographic References.

K

USSR

UDC 621.791.1

KRAVCHENKO, YE. L., Physico-Technical Institute of Low Temperatures

"Cold Welding of Metals with Clean Surfaces"

Kiev, Avtomaticheskaya Svarka, No 6, Jun 70, pp 25-27

Abstract: Experiments were performed to determine the tendency of metals to be bound together by cold welding as a function of such characteristics as the type of crystal lattice, mutual solubility, and the relationship of the atomic diameters in the two metals when the contacting surfaces are clean. The specimens used in the experiments were flat metal plates cleaned by mechanical removal of the metal's surface layer under vacuum, at a pressure of no more than 10^{-9} mm Hg. The specimens were then pressed by symmetrically inclined dies (with no more than one minute elapsing between the cleaning and pressing processes) and then taken out of the vacuum chamber. The minimum deformation at which the adhesion took along the uneven peaks could be detected was then determined. The deformation of the adhesion was also determined during the cold-welding process. Twenty-four pairs of different metals and alloys were investigated. Results of the experiments are given in four tables.

1/1

UDC: 621.384.6.5 8

USSR

ARZUMANOV, A. A., NEMENOV, L. M., ANISIMOV, O. K., BATALIN, S. S.,
VOLKOV, B. A., GROMOV, D. D., KRAVCHENKO, Ye. T., KRUGLOV, V. G.,
NIGMATOV, M. Kh., POPOV, Yu. S., PROKOV'YEV, S. I., and RYBIN, S. N.

"Isochronic Cyclotron With Controllable Ion Energy"

Alma-Ata, Izvestiya AN KazSSR--Teriya Fiziko-matematicheskaya, No 4, 1973, pp 6-15

Abstract: A discussion of the isochronic cyclotron with controllable ion energy built around the U-150-2 accelerator installed in the Institute for Nuclear Physics of the Kazakh SSR Academy of Sciences in 1965 is given. Calculations of the fundamental parameters made with an electronic computer are presented, together with the results of a theoretical analysis, a large part of which was based on approximation methods. These results were verified by a numerical method. The description is given of a program developed for investigating and modeling the magnetic field on a mock-up with a scale of 1:3. An outline drawing of the magnetic arrangement is given, along with curves of the magnetic field. The current correction for the magnetic field is explained, with an illustrative photograph of the correction winding. Also discussed are the

1/2

(8)

UDC: 631.384.6.5

USSR

ARZUMANOV, A. A., et al, Izvestiya AN KazSSR--Seriya Fiziko-matematicheskaya, No 4, 1975, pp 6-15

high-frequency system and the slit-type ion source, the ions entering the accelerator chamber radially. Curves for the change in beam intensity for accelerated alpha particles are plotted as a function of the accelerator radius. A photograph of the area of installation, showing a beam of protons in air with an energy of 30 Mev, is reproduced together with a photograph of the equipment itself.

2/2

UNCLASSIFIED PROCESSING DATE--04DEC70

1/2 012

TITLE--POLAROGRAPHY OF PHYSIOLOGICALLY ACTIVE AMMONIUM SUBSTITUTED THIOCYANATE SALTS. I. BENZYLPYRIDINIUM AND BENZYLQUINOLINIUM

AUTHOR-(02)-KRAVCHENYUK, L.P., MISKIDZHYAN, S.P.

K

COUNTRY OF INFO--USSR

SOURCE--FARM. ZH. (KIEV) 1970, 25(1), 37-41

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--POLAROGRAPHY, THIOCYNATE, PYRIDINE COMPLEX, QUINOLINE, PHARMACEUTICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/0203

STEP NO--UR/0491/70/025/001/0037/0041

CIRC ACCESSION NO--AP0135699

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--04DEC70

2/2 012

CIRC ACCESSION NO--AP0135699

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A POLAROGRAPHIC STUDY OF BENZYLPYRIDINIUM (I) AND BENZYLQUINOLINIUM (II) THIOCYANATES IN ORDER TO ELABORATE AN ANAL. METHOD OF QUANT. DETN. OF BOTH SALTS IN SOLNS. WHILE I IS REDUCED SHOWING A DOUBLE WAVE POLAROGRAM (E SUBONE HALF EQUALS MINUS 1.28 AND MINUS 1.78 V) II SHOWS 3 INFLECTIONS (E SUBONE HALF EQUALS MINUS 0.7; MINUS 1.2 AND MINUS 1.7 V) OF CURRENT. I AND II CAN BE DETD. PRECISELY IN PHYSIOL. AND PRESERVING SOLNS. THE EXACT INTERPRETATION OF ALL OF THE OBSD. WAVES IS GIVEN. E SUBONE HALF EQUALS 0.7 IS DUE TO THE ADSORPTION PHENOMENA WHILE E SUBONE HALF EQUALS 1.28 AND 1.2 ARE CUASED BY DIFFUSION AND E SUBONE HALF EQUALS 1.7 IS CONNECTED WITH A CATALYTIC EVOLUTION OF H SUB2 O. FACILITY: LVOV MED. INST., LVOV, USSR.

UNCLASSIFIED

USSR UDC: 621.396.69:621.319.4

KRAVCHINSKAYA, Ye. B., LITMANOVICH, L. Kh.

"Metallized Polyfluoroethylene Capacitors"

Elektron. tekhnika, Nauchno-tekhn. sb, Radiodetali (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 2 (19), pp 19-30 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1V287)

Translation: The authors discuss peculiarities in the design and technique of manufacturing metallized polyfluoroethylene capacitors. Electrical characteristics are presented for the K72-9 capacitor series which has been developed. The advantages of metallized polyfluoroethylene capacitors over foil capacitors are pointed out.

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1/2 006 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--COMPARATIVE DESCRIPTION OF THE TOP HORIZONS OF THE PRODUCING SERIES OF RED BED FORMATIONS ON THE MARGINS OF THE SOUTH CASPIAN BASIN -U-

AUTHOR--SALAYEV, S.G., KRAVCHINSKIY, Z.YA., GADZHIYEV, YA.A.

COUNTRY OF INFO--USSR

SOURCE--GEOLOGIYA NEFTI GAZA, NO. 9, P. 27-31. ILLUS, 1969

DATE PUBLISHED--------69

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--RESISTIVITY, ROCK

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/0878 STEP NO--UR/0009/69/000/009/0027/0031

CIRC ACCESSION NO--AP0104314
UNCLASSIFIED

2/2 006 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0104314

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TOPS OF THE PRODUCING SERIES OF RED BEDS ON THE MARGINS OF THE SOUTH CASPIAN BASIN ARE CORRELATED ALONG THE PADAR OKAREM PROFILE WITH THE AID OF RESISTIVITY AND SP LOGGING DATA. D.B.V.

UNCLASSIFIED

Magnetohydrodynamics

USSR UDC: 533.9...15

GARIB, M., KRAVCHUK, T. P.

"Relaxation Method of Plasma Diagnosis"

Tr. Un-ta druzhby narodov im. Patrisa Lumumby (Works of Patrice Lumumba Friendship University), 1972, 62, pp 48-55 (from RZh-Fizika, No 6, Jun 73, abstract No 6G135 by I. Moskalyov)

Translation: A relaxation method of measuring the concentration of charged particles is investigated. The principle of the method consists in measuring the characteristic damping time τ of the transient current in the circuit of a cylindrical capacitor filled with a magnetically active plasma. The shape of the current pulse when a square voltage pulse is sent to the input of the measurement circuit is determined by the capacitance of the "plasma capacitor", which depends on the permittivity of the plasma, and hence on the concentration n. Expressions are derived which relate the quantities τ, n, and the parameters of the measurement circuit for various special cases (effective frequencies of collisions of electrons and ions much greater than the corresponding cyclotron frequencies, much less than them, and approximately equal to them). The

USSR

GARIB, M., KRAVCHUK, T. P., Tr. Un-ta druzhby narodov im. Patrisa Lumumby, 1972, 62, pp 48-55

paper gives the results of determination of the density of a molecular hydrogen plasma in the pressure range of $p = 4\text{-}8 \cdot 10^{-2}$ mm Hg in the absence of a magnetic field. The control dependence n on pressure obtained by probes confirms the data of the relaxation method.

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USSR K UDC 621.791.85.037

GRAKUN, V. F., KRAVCHUK, L. A., MOROZENKO, L. N., KRYSHTAB, G. S.
(deceased)

"Electron Gun for Microwelding and Micromachining"

Kiev, *Avtomaticheskaya Svarka*, No 4, Apr 70, pp 72-73

Abstract: The article describes an electron gun developed at the Institute of Electric Welding imeni Ye. O. Paton for electron-beam microwelding and micromachining with a ~50-kv accelerating voltage and a beam current of up to 5 mA. The gun is comparatively simple, inexpensive, and reliable, and is suitable for both laboratory research and industrial use. An electron optic system is used with a triode electron projector, one electromagnetic lens, and a deflection system. The electron projector has an all-soldered case with a glass insulator. The electron optic system is protected by a case, which assures firm attachment of the high-voltage cable and its flexible connection with the projector, biological shielding of the operator, electrointerlocks, and convenient access to the cathode assembly of

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USSR

GRAKUN, V. F., et al., Avtomaticheskaya Svarka, No 4, Apr 70, pp 72-73

the electron projector. Such a gun design makes it possible to dispense with additional adjusting devices, bushings, and a vacuum-tight metal case. The article includes a drawing of the electron gun.

2/2

7366
CSO: 1842-W (97 pages) - END -

2

USSR

UDC 620.1

TRET'YACHENKO, G. N., VOLOSHCHENKO, A. P., KONEV, V. A., KRAVCHUK, L. V., KURIYAT, R. I., (Kiev)

"Influence of Salts of Sea Water in a Gas Stream on Thermal Stability of Turbine Blades"

Kiev, Problemy Prochnosti, No 12, Dec. 1972, pp 40-43.

Abstract: Methodological problems are studied, related to the study of the influence of sea salt in a gas stream on the load-bearing ability of the nozzle blades of marine gas turbine engines with thermal cycling of loading. Certain quantitative data are produced on the influence of sea salts on the nature of development of thermal fatigue cracks. The stress-strain state of the blade and its changes during a thermal loading cycle are studied.

1/1

Acc. Nr: AP0046658

Abstracting Service: INTERNAT. AEROSPACE ABST. 5-70

Ref. Code: UR 3663

A70-25300 # **Nomograms for determining thermoelastic stresses in a plate. I, II** (Nomogrammy dlia opredeleniia termouprugikh napriazhenii v plastine. I, II). L. V. Kravchuk (Akademiia Nauk Ukrainskoi SSR, Institut Problem Prochnosti, Kiev, Ukrainian SSR). *Problemy Prochnosti*, vol. 2, Feb. 1970, p. 87-95. 8 refs. In Russian.

Application of solutions to the problems of the thermal and stressed states in thermoelastic plate theory to the calculation of thermoelastic stresses arising in an infinite plate experiencing symmetrical nonstationary heat transfer with the ambient medium. Results are obtained for boundary conditions of the first, second, and third type. Nomograms for determining the relative thermal stresses in a plate as a function of the characteristic dimensions and the criteria defining the heat transfer conditions are proposed. V.P.

40

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18

REEL/FRAME
19781971

USSR UDC: 621.317.373(088.8)

DIDUKH, N. N., KRAVCHUK, M. I.

"A Two-Channel Pulse Phase Shifter"

USSR Author's Certificate No 261574, filed 21 Oct 68, published 13 May 70 (from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2A332 P)

Translation: This Author's Certificate introduces a two-channel pulse phase shifter for producing a precise 180° phase shift between two cophased input signals on the same frequency. The device contains switches, a flip-flop and pulse-potential coincidence circuits. In order to improve the interference resistance of the phase shifter, the flip-flop output in the first channel is connected through a series circuit comprised of an integrating network. emitter follower and transistor switch to the controlling input of the pulse-potential coincidence circuit in the second channel. E. L.

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USSR

UDC: 620.17

SHATINSKIY, V.F., GARLINSKIY, R.N., and KRAVCHUK, O.I.

"The Apparatus for Tensile Tests of Metals and Alloys at Elevated Temperatures and Extra-High Vacuum"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 7, No 5, 1971, pp 66-68

Abstract: The apparatus for testing specimens for tensile strength and creep under vacuum of up to 10^{-10} mm of mercury and temperatures up to 1200°C is described.

This apparatus consists of an inner and an outer casing. The inner casing is 300 mm diameter, 700 mm long. The inner casing is evacuated to 10^{-6} to 10^{-12} mm Hg by means of a mechanical pump, two diffusion pumps and a sorption pump in series. The space between the two casing, is evacuated to 10^{-3} mm Hg. The specimen is located in the inner chamber and is connected to two

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USSR

SHATINSKIY, V. F., et al, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 7, No 5, 1971, pp 66-68

water cooled steel tension bars. It is heated by an electric heater. These bars are sealed to the walls by means of stainless steel bellows so as to avoid friction. All other mechanical penetrations are sealed by metallic packing. Copper gaskets seal the bolted joints. Electric penetration are sealed by metal-ceramic insulators.

Removable heads are provided on both casings for accessability to the inner chamber.

This apparatus is used for tests of strength and creep when the surface effects of corrosion and diffusion have to be eliminated.

2/2

UDC 518:517.948

USSR

KRAVCHUK, T. S., Institute of Mathematics, Academy of Sciences Ukrainian SSR

"On the Convergence of a Nonstationary Process of Successive Approximations"

Kiev, Dopovidi Akademii Nauk Ukrains'koii RSR, Seriya A -- Fizyko-Tekhnichni ta Matematychni Nauky, No 12, Dec 70, pp 1073-1076

Abstract: The article employs the ideas of L. V. KANTOROVICH's majorant method to prove the convergence of a process of successive approximations to the solution of the equation

$$x = Ax + f \tag{1}$$

with the linear operator A (AE → E). It is assumed that E is a Banach space partially ordered by the regular cone K. The ter-

1/3

USSR

KRAVCHUK, T. S., Dopovidi Akademii Nauk Ukrains'koi RSR, Seriya A -- Fizyko-Tekhnichni ta Matematychni Nauky, No 12, Dec 70, pp 1073-1076

minology and symbols used are taken from M. A. KRASNOSEL'SKIY. Conditions are given for the convergence of the nonstationary iterative process

$$x_n = f + Ax_{n-1} + \alpha_n, \quad x_0 = \theta,$$
$$\alpha_n = A_n\delta_n, \quad \delta_n = x_n - x_{n-1} \quad (n = 1,\ 2, \ldots),$$

where $\{A_n\}$ is a sequence of linear, uniformly bounded operators which act in the space E or convert E to the subspaces E_1, E_2, ..., and are such that for each A_n there exists the bounded inverse operator $(J - A_n)^{-1}$.

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USSR

KRAVCHUK, T. S., Dopovidi Akademii Nauk Ukrains'koi RSR, Seriya A -- Fizyko-Tekhnichni ta Matematychni Nauky, No 12, Dec 70, pp 1073-1076

Considered in addition to equation (1) is the so-called majorant equation

$$y=By+g \quad (BE \to E)$$

with the linear positive operator B, which has the positive solution y^* ($y^* \gneq \theta$). The convergence of the successive approximations

$$y_{n+1} = By_n + g \quad (y_0 = \theta, N = 0, 1, \ldots)$$

to the solution of the equation v_0 ($v_0 \lneq y^*$) is proved.

3/3

USSR

UDC 678.5.06:620.173.23

GUMENYUK, V. S., and KRAVCHUK, V. S., Institute of Mechanics, Kiev Academy of Sciences Ukrainian SSR

"Stability Study of Cylindrical Sheels Made of Glass Reinforced Plastic "

Abstract: Experiments were carried out on the stability of cylindrical shells when subjected to compression forces. The shells were prepared by winding the glass thread, or from glass cloth, or by a combination of both methods. It was determined that with short lasting stress at normal temperature the glass reinforced plastic behaves as an elastic material obeying Hook's law. The ratio of shear modulus to reduced resilience modulus exerts its greatest effect on the value of critical stress for cylindrical glass reinforced plastic shells. Both the metallic and glass reinforced plastic shells are very sensitive to manufacturing defects and, as a consequence, experimental values for critical stress are much lower than theoretical values. Contrary to metallic shells, the initial imperfections of glass reinforced plastic are less important, resulting in differences in statistical distributions.

1/1

USSR

YEMELICHEV, V. A., KRAVERSKIY, I. M.

"Machine Experiment on Solution of Integer Linear Programming Problem by the Method of Construction of Sequences of Plans"

Zh. vychisl. mat. i mat. fiz. [Journal of Computer Mathematics and Mathematical Physics], 1973, 13, No 2, pp 467-471 (Translated from Referativnyy Zhurnal - Kibernetika, No 8, 1973, Abstract No 8 V517 by the authors)

Translation: Results are presented from a machine experiment on solution of the test problems of Peterson (RZHMAT, 1968, 7V382) by algorithms based on the method of construction of sequences of plans (RZHMat, 1972, 6V441), and the results produced are compared with the results of other authors.

1/1

USSR UDC 622.235.5

VOVK, A. A., KUZ'MENKO, A. A., [redacted] and [illegible], A. S.,
Institute of Geotechnical Mechanics of the Academy of Sciences of the Ukrainian Soviet Socialist Republic

"On Investigation of the Residual Deformation Zone in Grounds by Seismometric Methods"
(Presented by Polyakov, N. S., Member of the Academy of Sciences of the Ukrainian SSR)

Kiyev, Dopovidi Akademii Nauk, Seriya A, Ukrainian SSR, No 10, 1971, pp 951 —954

Abstract / Ukrainian article / : A seismometric method of investigating the neighboring zone of the explosion effect is described. By this method, irreversible deformations of the ground can be determined at distances exceeding by 3 —4 times the dimensions of the zone of residual deformations. The latter are determinable by other methods. Two illustr., three tables, one biblio. ref.

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AA0040678 UR 0482

A.T. KRAVETS

Soviet Inventions Illustrated, Section I Chemical, Dervent,

241570 ELECTRIC EROSION DEVICE for maching hard metals submerged in liquids was improved by providing an auxiliary generator to maintain a dynamic equilibrium during the breakdown and re-establishment of a protection layer of the machining electrode. The control elements of this generator are made in the form of an active or inductive and capacitive resistances and are connected in series with the rectifier current source.

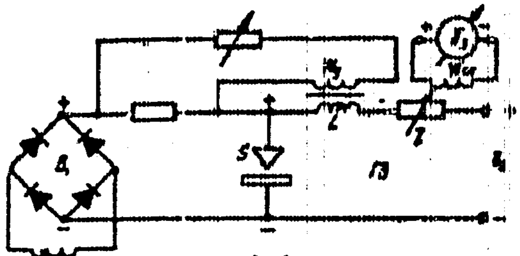
18

AUTHORS: Livshits, A. L.; Roze, L. V.; Zingerman, A. S.; Kravets, A. T.; Sosenko, A. B.; Aronov, A. I.; and Polotskiy, V. Ye. (Eksperimental'nyy Nauchno - Issledovatel'skiy Institut Metallorezhushchikh Stankov i Zavod "V E F")

1/2

19750284

AA0040678



Фиг.2

30.3.64 as 891578/25-8. A.L.LIVSHITS at al.METAL CUTTING MACHINE TOOLS RES.INST. (8.9.69) Bul 14/18.4.69. Class 21h. Int.Cl.H 05b.

A10

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13750285

KRAYETS A. T.

AA0040642 UR 0482

Soviet Inventions Illustrated, Section I Chemical, Dervent, 1-70

241569 ELECTRO-MACHINE OF METALS by current pulses in a liquid medium containing carbon, according to the parent patent No. 196209, is improved by applying onto the working electrode, prior to the machining, a protective carbon-containing layer by pyrolysis of the liquid medium, which may be effected by heating the working surface of the electrode to 700-1000°C in an electric arc or furnace and, then, contacting it with the carbon-containing liquid medium. By this method, the durability of an electrode made e.g. of copper, is improved and the wearing of graphitized electrodes is reduced over the whole range of working conditions. The efficiency of the electrode is high.
30.3.64 as 891578/25-8 Add to 196209. A.L.LIVSHITS et alia. METAL-CUTTING MACHINES INST. et al.(28.8.69)
Bul 14/18.4.69. Class 21h. Int.Cl.H 05b.

18

LD

19750216

AA0040642

AUTHORS: Livshits, A. L.; Roze, L. V.; Zingerman, A. S.; Kravets, A. T.; Sosenko, A. B.; Aronov, A. I.; and Polotskiy, V. Ye.

Eksperimental'nyy Nauchno - Issledovatel'skiy Institut Metallorezhushchikh Stankov i Zavod "V E I"

19750217

1/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--BREAKING IN OIL -U-

AUTHOR-(05)-KOSTETSKIY, B.I., SAVCHENKO, N.Z., KRAVETS, I.A., VOZNYUK,
L.F., NATANSCN, M.E.
CCUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,579
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--03MAR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CHEMICAL PATENT, LUBRICATING OIL, MINERAL OIL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/0086 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0127713
UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AA0127713
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OIL THAT REDUCES THE TIME REQUIRED FOR BREAKING IN ENGINES AND IMPROVES THE QUALITY OF THE SURFACES OF THE MOVING PARTS IN CONTACT IS BASED ON MINERAL OIL AND CONTAINS 0.5-1.5 WT. PERCENT O HYDROXYQUINOLINE AND 0.2 WT PERCENT OLEIC ACID.

FACILITY: UKRAINSKAYA ORDENA TRUDOVOGO KRASNOGO ZNAMENI SEL'SKOKHOZYAYSTVENNAYA AKADEMIYA.

UNCLASSIFIED

USSR UDC 619:616.988.43-084.47

SYUSYUKIN, A. A., KRAVETS, I. K., TSVETKOVA, N. Ye., and PAVLOV, V. G., All-Union Scientific Research Institute of Food-and-Mouth Disease

"Immunogenic Properties of an Experimental Food-and-Mouth Disease Vaccine

Moscow, Veterinariya, No 5, May 71, pp 40-42

Abstract: The results of a study of the immunogenic character of an inactivated vaccine prepared from foot-and-mouth disease virus A_{22}, strain 003, grown in BHK cells, are reported. Virus from the 6-7th and 102-103 passages was used in the form of a centrifuged cultural liquid. The vaccine used consisted of virus (50%), a 6% solution of aluminum hydroxide (40%), and glycerine (10%). After adsorption of the virus, the pH of the mixture was adjusted with glycine buffer to 8.6-8.8, and formalin was added at a final concentration of 0.05%. The virus was inactivated for 48 hrs at 26°C. After the inactivation, glycerin was added, and in some series, saponin. The vaccine was tested in cattle and guinea pigs. It was found that all six test vaccines had high immunogenic properties. In five test vaccines, the ID_{50} for guinea pigs was 0.15-0.19 ml, and only in one test vaccine was it 0.26 ml. Inactivated vaccines with saponin (2.5 mg per 10 ml vaccine) from virus of the 6th and 102d passages grown from a single-layer cell culture under stationary

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USSR

SYUSYUKIN, A. A., et al, Veterinariya, No 5, May 71, pp 40-42

conditions was tested on guinea pigs. The vaccine from virus of the 6th passage was three times more effective than that from virus of the 102d passage. The LD_{50} in the first case was 0.25 ml, that in the second case was 0.76 ml. In general, it was found that vaccine from virus of the earlier passages is more immunogenic than vaccine from virus of later passages.

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1/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--THERMODYNAMIC FUNCTIONS OF THE SORPTION PROCESS OF
CHLOROTETRACYCLINE ON SULFOCATIONITE SBS -U-
AUTHOR-(03)-SAMSONOV, G.V., VOROBYEVA, V.YA., KRAVETS, M.V.

COUNTRY OF INFO--USSR

SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 3, PP 427-429

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SORPTION, ENTROPY, ION EXCHANGE RESIN, ANTIBIOTIC,
TETRACYCLINE, CHLORINATED ORGANIC COMPOUND/(U)IONITE ION EXCHANGE RESIN,
(U)SBS SULFOCATIONITE EXCHANGE RESIN

CONTROL MARKING--NO RESTRICTIONS

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SELECTIVE ADSORPTION OF CHLOROTETRACYCLINE BY IONITE IS DETERMINED BY INCREASE IN THE ENTROPY OF THE SYSTEM. DURING ADSORPTION OF THE IONS OF THIS ANTIBIOTIC THE ION EXCHANGE CONSTANT INCREASES WITH INCREASING TEMPERATURE AND THE SWELLING COEFFICIENT OF THE SORBENT. THIS CAN BE PROBABLY ACCOUNTED FOR BY THE LOW ENERGY OF ADDITIONAL INTERACTION OF CHLOROTETRACYCLINE WITH THE SORBENT. FACILITY: KHIMIKO-FARMATSEVTICHESKIY INSTITUT, LENINGRAD.

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USSR

UDC:629.78.002.3

TROFIMOVICH, A. N., TVERDOKHLEB, S. I., KRAVETS, N. I.

"Self-Lubricating Antifriction Material Based on Thermally Stable Aromatic Polyamides"

Probl. Treniya i Iznashivaniya. Resp. Mezhved. Nauch.-Tekhn. Sb. [Problems of Friction and Wear. Republic Interdepartmental Scientific and Technical Collection], 1973, No 4, pp 119-125 (Translated from Referativnyy Zhurnal Raketostroyeniye, No 10, 1973, Abstract No 10.41.164 from the resume)

Translation: Laboratory studies of new self-lubricating thermally stable materials based on aromatic polyamides with teflon are performed. The dependence of physical-mechanical and antifriction properties on content of teflon is demonstrated and the optimal quantity of filler is established. The maximum wear resistance is achieved by a material based on poly-m-p-phenylene isophthalamide containing 15-20% teflon. 3 Figures; 2 Tables; 11 Biblio. Refs.

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Corrosion

USSR UDC: 621.791.695.3

MEDOVAR, B. I., MARTYN, V. M., CHEKOTILO, L. V., [illegible], E. M., KULEV, G. B., POLTAVETS, A. V., KRAVETS, N. I., and GLOZMAN, L. P.

"Corrosion Resistance of Joints of EP668 Alloy in Nitrogen- and Sulfur-Containing Media"

Kiev, Avtomaticheskaya Svarka, No 11, Nov 70, pp 67-68

Abstract: A study was made of the corrosion resistance of high-chromium alloy Kh50N5V (EP668) and its welded joints in highly aggressive media involved in the production of sulfuric and nitric acids. It was found that EP668 alloy and its welded joints have a high corrosion resistance in media containing nitrogen oxides NO and NO_2, natural gas with air, H_2S, SO_2, CO_2, and HCN gases. In these media the maximum corrosion rate of the parent metal and its welds is 0.009 g/m^2, hour. For comparison, tests were also conducted on the most extensively employed corrosion-resistant materials, including Kh18N10T, Kh16N15M3T (EI848), 0Kh21N6M2T (EP54), titanium, aluminum, and St.3 steel. Under similar conditions these materials exhibited intensive corrosion. EP668 alloy is also resistant in ammonium carbonate solutions (43% NH_3, 34% CO_2, 23% H_2O) at 100°C and a maximum pressure of 200 atm.

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